

INVENTOR "GUESSED" WAY TO FAME AND FORTUNE

By JOSEPH P. ANNIN.

Dynamic persistence plus patience equals successful genius.

This is the formula, roughly stated, which evolved Emile Berliner, eminent inventor and good citizen, of Washington.

Mr. Berliner doesn't express it this way. It is not matter-of-fact enough for him. Besides, he is not given to idealistic self-analysis. But if you will talk with him—if you are fortunate enough to have an opportunity to talk with him—and will then "talk him over" with one who knows him well, this is the explanation you probably will arrive at for his present position in the world of science and philanthropy.

Back in 1870 a nineteen-year-old German lad, recently migrated from his home in Hanover, Germany, bowed his back daily over dust-dry ledgers which recorded sales of a Washington mercantile establishment. His brain was working; he was guessing. Later, his persistence having gained for him a

Emile Berliner So Explains His Rise From Immigrant Boy Bookkeeper to Eminence as Creative Genius, Philanthropist and Good Citizen—Patience the Keynote of Success He Says, Having Perfected the Transmitter Which Made the Telephone Practicable as Well as the First Talking Machine for Using and Duplicating Disc Records—Self-taught in Sound and Electricity, He Registered His First Success After Six Years' Study—Victor Machine Perfected Eleven Years Later—Loss of One Child and Illness of Another Turned Inventor's Mind in Other Fields, Resulting in World-wide Propaganda Against Use of Raw and Unprotected Milk for Infant Feeding—Washington the Intellectual Center of the Country He Declares, Discussing One of His Hobbies. City Particularly Attractive to Scientists.

embodied in the Victor talking machine. This was in 1887. He guessed that raw milk slew more human beings than the wars of Napoleon. And from this conclusion grew the world-propaganda against impure dairy products.

There were few preliminaries. I told him what I wanted. He knew before I had concluded. He had been through it before, and Mr. Berliner is not one who would waste time.

"I came to this country in 1870," he

were not perfected until 1887. The present machine known as the Victor is used for education, entertainment, political propaganda, passing one voice up and down the earth."

Hobbies? Yes, Mr. Berliner has hobbies. His family is one—the principal one, of course. His roomy home, with its gardens and greens, a combination of country comfort and city convenience, is another. Washington is another, and an important one. The saving of human life is a hobby that he rides and pays highly for.

We reached Washington very quickly in our interview.

"As a national capital, how does Washington rank in intellectual influence on the country and the world?" I asked him.

"The answer is in that book," pointing to a copy of "Who's Who" on the table. "Of the men registered in that book, the total number of Washingtonians is the fourth largest of any whole state group. Washington is the meeting place of the brains of the country. Particularly is this true of science and political economy. This is the greatest rendezvous for scientific men in the country today, and the influence of Washington is felt throughout the scientific world."

"Take the matter of sanitation—and that is one of my hobbies—the pamphlets, monographs and other publications of Washingtonians form the textbooks of the world. The sanitarians who live and work here have done more toward the lessening of disease than any other group. And in their field, the publications of the Department of Agriculture and the Bureau of Public Health lead all."

"But do we contribute as largely as other capitals to arts and letters?"

"No; we don't. Arts and letters draw their themes from places where one views the extremes of life and civilization, from the rapid action of extremely wealthy society; from the sordid life of extreme poverty, from the center of great financial transactions; from the perfect quietude of the country, from the rugged, picturesque life of the mountain and plain."

"Washington doesn't furnish these backgrounds. But here, away from the turbulence of the great center of population, one finds the culture, the broad vision, the facilities, and the atmosphere which appeals to the searcher for special training; for research material."

"We have gathered here the brains of the nation. We draw them from men who have been successful in business, in science, in exploration and exploitation. For instance, take the men who are drawn here by the national govern-

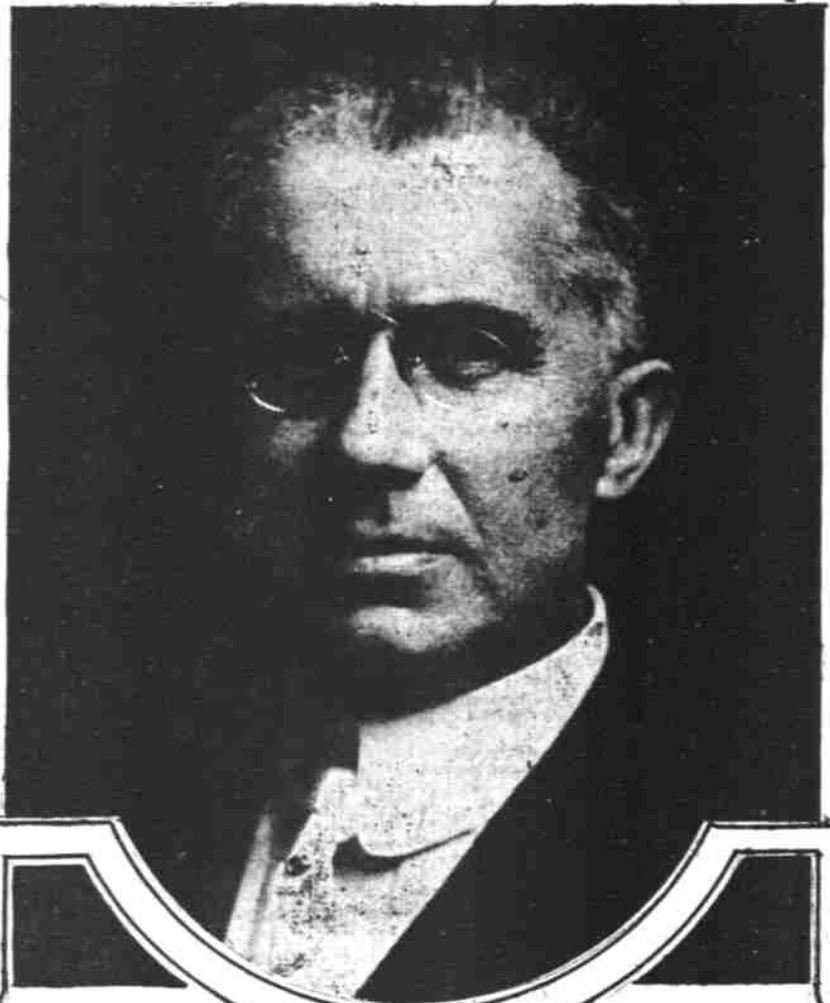
ment—members of the House, Senators, Cabinet officers, departmental officers. They represent the best of the communities from which they hail. They represent the advanced thought of the nation. And their influence,

done in his own community; what is he in his chosen profession, in his own walk of life? It is discriminating, but in a different way. A man or woman who has 'done something,' who has 'made good,' not only finds a ready

M. Kober, of this city, who with Dr. S. C. Busey had called attention to the relation of impure milk to infantile mortality. We early came into conflict with the American Pediatric Society, which had sent out the dictum that children did not thrive on heated milk and contracted scurvy and rickets from being fed on it. Through bulletins printed in the Sunday editions I advertised the danger of raw milk and the safety in scalded milk—I did not then use the term pasteurized. Dr. Woodward joined with me in the fight and immediately incurred the enmity of milk dealers' associations throughout Maryland, Virginia, and the District of Columbia.

"The Associated Charities' committee on tuberculosis took the matter up in 1907, six years after I had commenced the fight, and created a milk committee of which I was chairman and which comprised, in addition, Dr. E. C. Schroeder and Dr. William H. Dexter, of the Bureau of Animal Industry; Dr. Buckingham, the veteri-

EMILE BERLINER, FAMOUS INVENTOR, MAKES HIS HOME IN WASHINGTON



much-to-be desired promotion as traveling salesman, he still was guessing. He was guessing that if he knew something about electricity and sound, he could invent an instrument by which the one would carry the other accurately over great distances. He guessed that it would be worth his while to learn something about electricity and sound.

It was a good guess. It "guessed" him into fame and affluence. It guessed him into a generally accepted characterization as "an eminent American inventor." He calls them "guesses," these combinations of genius, persistence and patience.

But to continue in a semi-historical vein. The bookkeeper-salesman thought enough of his guess to back it with real effort. He bought a few standard works on electricity and sound control. He studied them, unassisted and without interruption of his "bread-and-butter" work.

It was not until six years later that he felt himself prepared to enter the experimental field with his self-acquired technical knowledge of his subject. In 1876 he commenced a series of experiments, largely in an improvised private laboratory. In three months he had perfected the first practical telephone transmitter, the first instrument for projecting the human voice over the long distance telephone, the attachment that first made Prof. Bell's invention practicable as an instrument for common use.

And now he calls it a guess! Well, perhaps he doesn't interpret the word as most of us do, as a transient, fleeting supposition, not to be seriously experimented with. For the kind of "guesses" Mr. Berliner makes—the kind he made then—cease to be guesses when behind them is placed the genius and determination—the "stick-to-itiveness," if you please—with which this German immigrant youth, speaking imperfect English, boasting only a grammar school education in Hanover, Germany, endowed this first great "guess."

Since then he has "guessed" frequently and brilliantly. He guessed the first disc talking machine—the gramophone—now

duct and raw milk and the Society for the Prevention of Sickness. He "guessed" that the aeroplane, to be successful, must have the lightest, smallest motor possible. And the greatest aeroplane records have been made with motors of the Berliner type. These are only a few of his "guesses," roughly sketched.

"What is necessary to success in the case of an inventive genius?" I asked him.

"Patience; unlimited patience," he replied crisply, "and application."

"In other words, patience and efficiency," he replied. "The inventor must have the patience to face failures, hundreds of them, and still keep on. He must be ready to average ninety-nine failures for every success or encouraging development."

We were sitting in a severely furnished library in Mr. Berliner's handsome but unpretentious residence at 1458 Columbia road. I had come by appointment.

"What do you want to see me about?" he had asked bluntly over the telephone, when I asked for an hour of his time.

"I want to talk about yourself," was the only reply I could frame. But the appointment was made; I sent in my card, and was ushered into a small room, the walls of which were completely encircled by books, and the sole other embellishments of which consisted of four landscapes in oil.

Very shortly after, a brisk step carried Mr. Berliner in. Mr. Berliner's personality seemed to stand out all over him. I knew how he would speak before he addressed me. He was the brisk, busy, courteous business man to the last mark. Alert and perfectly poised, sure of every muscle he called into play, sure of every word he uttered, unassuming but not stiff, he might have been the president of a big bank or a railroad, entering his library after a round on the links and a shower, or a quick canter across country. Mr. Berliner, according to Who's Who, is sixty-three years old, and a few months. He could have passed for fifty when I talked to him.

told me. "I had just landed in New York. I clerked here a while before returning to New York, where I taught German, kept books and did various other jobs to keep body and soul together. Among other things I washed bottles in a laboratory for \$5 a week, and was glad to get the job. Later, my old employer in Washington offered me a position, and I returned. I had been studying electricity by myself, and had picked up some physics. I was interested in the development of the telephone. It was imperfect to a degree. Few really took it seriously as a probable public utility. In 1876 I commenced experimenting with the loose contact transmitter. I perfected it in about three months."

"The Bell Telephone Company sent for me and bought my invention, and I entered their service. Their service was then very small, but the company was under the direction of the men who ultimately made it the powerful concern of today. I was associated with Theodore N. Vail, president of the American Telephone and Telegraph Company and the Western Union Telegraph Company and two other men, constituting virtually the entire staff."

"Of course things moved along rapidly. Three years later I established a telephone factory in Hanover, Germany, where I was born. I put my two brothers in charge. Twenty years later, by the way, I added in Hanover a talking machine factory under the management of a brother."

"It took seven years of work to perfect my next 'guess'—a machine that could talk and sing naturally. The first part was not difficult—to perfect a machine that would catch hold and give back the human voice. But to find a way of duplicating each record was a different matter. I don't know how many failures it involved, but there were enough of them. Eventually I discovered an etching process that was inexpensive and comparatively simple."

"The theory of my talking machine was to utilize a groove of even depth and varying direction, and in which the record groove not only vibrated but also propelled the stylus across the record. That and the duplicating method

HOME AT 1458 COLUMBIA ROAD OF EMILE BERLINER, NOTED INVENTOR



emanating from this center, works upon the entire country.

"The scientific man finds in Washington the greatest library in the country; he finds governmental agencies, operated by scientists with unlimited facilities for gathering information and applying it, and all working along the same lines as himself."

"Society here furnishes a more delightful, congenial atmosphere for the student of American psychology and institutions than it would be possible to derive from any other society. Welcome is refused only to the mediocre. It is not a question of long residence; the criterion always is, 'What has he

welcome, but finds a congenial and instructive atmosphere."

"And with all the attractiveness of civic beauty not duplicated in any other city, one finds a beauty unmarred by unlovely elements of the great center of population."

The entrance of a robust, pretty lass of fourteen brought Mr. Berliner around to his pet hobby—the Society for the Prevention of Sickness. His daughter was the inspiration of his greatest philanthropy, of which he was the originator, director, and financier for years. She caused the inventor to turn his genius in new channels, to study the science of health and the feeding of infants and to wage for years a relentless warfare upon the murder of babes through impure milk and other dairy products. The fight enlisted against Mr. Berliner dairymen and physicians, drug manufacturers and all the influences which these powerful interests command. He fought ignorance among well-intentioned people—the hardest battle any propagandist meets. He spent money, and he gave his time and his mind to the fight, and he won. It was a victory which his commentators never have failed to elaborate on, and which is ranked as one of his greatest achievements. As he told me, briefly, of the fight, his deep-set, large grey eyes lightened and softened behind his glasses—he was the brusque business man turned philanthropist.

"I had lost one child," he said, "and another was on the edge of death. The best doctors I could get did the child no good; she was failing rapidly. Finally Mrs. Berliner and I took a hand. We started with the child's food, feeling our way carefully, studying cause and effect. We prescribed pure milk, air, and sunshine in abundance, and were rewarded in a little while by signs of marked improvement. The baby is now fourteen years old. She was in the room just now."

"Aroused by my experience in her case, I commenced a study of infant mortality. I traced, as I then believed and as I have since proven, the slaughter of thousands of babies to contaminated cows' milk. To this same source I traced the death of thousands of adults from tuberculosis and typhoid."

"I organized, in myself, the Society for the Prevention of Sickness. I printed bulletins and pamphlets about milk. I consulted and conferred with the ablest scientists in the country on the subject. I worked with Dr. George

arian, and Mr. Wallace Hatch, secretary of the Associated Charities.

"At the first conference of this committee Dr. Schroeder announced his discovery that the feces of tuberculous cows are often heavily charged with virulent tubercle bacilli, and pointed out that the examination of numerous samples of market milk showed that very little milk entirely free from contamination from cow feces reaches the consumer, hence that the presence of a single tuberculous cow in a dairy herd must be regarded as a danger to which any portion or all of the milk from the herd may become infected with tubercle bacilli. As a result of this announcement, Commissioner Macfarland, through the Board of Commissioners, called the Washington milk conference, to which were invited most of the prominent authorities on sanitation that could be gathered from among the local scientists, and from the bureaus of the national governments, members of the different milk associations, the local Bar Association, the Veterinarian Association, the Washington Academy of Sciences, and the Chemical Society of Washington. At this conference a permanent organization was effected, and the proceedings and reports were printed and distributed by the United States Department of Agriculture."

"Through this medium the movement was made nation-wide, the work was made the foundation of many municipal and State dairy laws, and its effect was felt across the Atlantic in Europe, particularly in England."

"Backed by the work of the Washington Milk Conference, the Society for the Prevention of Sickness continued its campaign with increased vigor. It initiated various other issues connected with the milk supply. We attacked Washington hospitals because they furnished indiscriminate raw milk to their patients. We criticized in particular the Children's Hospital because several of its leading doctors continued to oppose pasteurization."

"When the society started its milk campaign thirteen years ago, not a quart of milk sold in the District was pasteurized or otherwise treated. Today, according to the District health officer, Dr. Woodward, over one-half of the bottled milk sold in Washington is pasteurized. As a consequence, the mortality rate, particularly among children, has steadily decreased. And infectious diseases have declined in frequency."

"And this is only one of Mr. Berliner's philanthropies. True; it is his greatest; but there are many others to which he has given not only of his ample means, but of his time and his genius."

"I recently asked a Washington man who, in New York or Chicago, would be known as one of the merchant princes of his city, what he thought of Mr. Berliner. He pondered my question for several minutes. Finally he replied: 'There is no better citizen in the District.'

INTERIOR OF WORKSHOP WHERE INVENTOR SPENDS MUCH TIME

